

REMARKS

Claims 1-16 and 20-33 were pending in the application at the time of the Office Action. Claims 20-26 were rejected under 35 U.S.C. 101. Claims 1-3, 5-15, 17-18, 20-25, 27 and 29-32 were rejected as being anticipated under 35 U.S.C. 102. Claims 4, 16, 26, 28 and 33 were rejected as being obvious under 35 U.S.C. 103. By this response, Applicant has amended claims 1-16, 20, 22-24 and 27. Applicant respectfully submits that the amendments to the claims are based in the specification as originally filed and that no new matter has been added. Entry of the claim amendments is respectfully requested. As such, claims 1-16 and 20-33 are presented for the Examiner's consideration in light of the following remarks.

Reconsideration and allowance of the application is respectfully requested in view of the above amendments to the claims and the following remarks. Applicant requests that the Examiner carefully review any references discussed below to ensure that Applicant's understanding and discussion of the references, if any, is consistent with the Examiner's understanding. For the Examiner's convenience and reference, Applicant's remarks are presented in the order in which the corresponding issues were raised in the Office Action.

A. Examiner Telephone Interview

Applicant(s) and applicant's attorney express appreciation to the Examiner for the courtesies extended during the recent interview held on February 26, 2008. This response includes the substance of the Interview.

B. Rejection on the Merits

1. Rejections under 35 U.S.C. 101

Claims 20-26 are rejected under 35 U.S.C. 101 as being non-statutory subject matter. Applicant does not agree with this rejection. However, in order to advance allowance of the claims, applicant has amended claim 20 to recite:

- a) a user interface tool stored on physical computer-readable media that, when executed by one or more processors, causes the system to allow an end-user to develop, assemble, manage and/or execute implementation of service modules;
and
- b) a run-time server

As such, Applicant respectfully requests that the statutory subject matter rejection to claims 20-26 be withdrawn.

2. Independent claim 1

Claims 1-3, 5-15, 17 and 18 were rejected under 35 U.S.C. 102(e) as being anticipated by Lai (US Pub No. 20050044197 A1). Applicant notes that claims 17 and 18 were cancelled in the previous amendment, thus rendering the anticipation rejection with respect to these claims as moot.

As discussed in the telephone interview, and as clarified in the claims, the present invention is related to a service-oriented software development system for developing and implementing service modules. The service-oriented software development system uses system functions to provide its functionality. System functions can include logging, management, memory sharing, caching, etc. The unique aspect of the invention is that at least some of the system functions are implemented as service modules. In addition, system functions that are built as service modules can be run on the same platform that is provided by the service-oriented software development system. In order to invoke a system function service module, the platform of the service-oriented software development system calls the system function service module and then implements it through its own platform. Thus, the service-oriented software development system leverages its own service-oriented artifacts to perform its own system functionality. See Specification, [para 3].

Once it is understood that the software development system itself uses service modules to perform its own system functions, it becomes clear that the cited references do not teach this unique concept. For example, the Lai reference teaches a Web Services architecture, summarized as follows:

[0185] Embodiments of a system and method for providing a generic Web Services architecture incorporating a structured methodology and design patterns for implementing Web Services are described. Embodiments of this Web Services architecture may incorporate a structured methodology, best practices and design patterns that address the reliability, availability and scalability aspects of Web Services architecture. Embodiments may be used in designing, implementing, and managing end-to-end Web Services solutions that may incorporate, for example, reliability, scalability, and availability. Embodiments may provide a mechanism for designing and implementing Web Services as business (or other application) solutions that may include mainframe and legacy systems interoperability and cross-enterprise integration (for example, SOAP-JMS binding).

'97 application. As illustrated in Figure 1 of Lai, the architecture is quite distributed. The features that may most closely be considered to the present invention, although as will be discussed below, do not render the invention anticipated or obvious, is the service provider/service implementation aspects of the Lai architecture. With regard to the Service Provider and service implementation aspects, Lai teaches:

[0212] Web Services technology can be described in terms of a Service Requester-Service Provider relationship, as illustrated in FIG. 1. The Service Provider runs business services from their systems locally and remotely. Business services provided can be found in a Service Registry. In order to register and publish the business service in the Service Registry, the Service Provider defines (authors) service description and configuration information (such as configuration files or WSDL-Web Services Description Language) and then codes the implementation (Service Implementation). The Service Implementation may be from existing legacy system functionality via Remote Procedure Calls or new applications.

....

[0278] A service provider may serve as the service broker. A service provider creates and/or provides the business services or system functionality (as a producer role-for example, a supplier is a service provider for retail services to buyers). Business services are published in standard description languages such as WSDL. The service requester accesses the services provided by the service provider with interfaces and descriptions that are available by standard protocols (of course, with appropriate security) provided by the service provider.

'97 application (emphasis added). However, in Lai, there is no teaching that the service provider itself uses system functions that are configured as service modules. In other words, in order to enable the functionality of the service provider, Lai does not teach that the service provider calls web services to perform system functions.

Thus, Lai does not teach "wherein the system uses software service modules to perform system functions to enable operation of the system, wherein execution of the system functions includes the software service modules of the system functions being implemented through the server infrastructure itself" as recited in claim 1. As such, Applicant respectfully requests that the anticipation rejection with respect to claim 1 be withdrawn.

Dependent claims 2-3 and 5-15 depend from independent claim 1 and thus incorporate the limitations thereof. As such, Applicant respectfully submits that claims 2-3 and 5-15 are distinguishable over the prior art for at least the same reasons discussed above with respect to claim 1 and request that the anticipation rejection with respect to claim 1 be withdrawn.

3. Dependent claims 4 and 16

The office action rejected claim 4 as obvious over Lai in view of U.S. Pat. Pub. No. 2004/0015564 to Williams and claim 16 as obvious over Lai in view of U.S. Pat. Pub. No. 2005/0015491 A1 to Koeppel. Dependent claims 4 and 6 depend from independent claim 1 and thus incorporate the elements thereof. As such, Applicant respectfully submits that claims 4 and 6 are distinguishable over the prior art for at least the same reasons discussed above with respect to claim 1. Furthermore, neither Williams nor Koeppel make up for the deficiencies of Lai. As such, Applicant respectfully requests that the obviousness rejection with respect to claims 4 and 16 be withdrawn.

4. Independent claims 20 and 27

Claims 20-25, 27, 29-32 were rejected under 35 U.S.C. 102(b) as being anticipated by Fletcher (US patent 6,985,939 B2 hereafter "Fletcher"). Fletcher teaches using portlets as web service intermediaries. *See* '939 patent, col. 3, ll. 54-55. Fletcher teaches:

A portal platform provides a number of services for the portlets it hosts, as described above. The present invention leverages portlets as a portal interface, and also builds upon the concept of a remote portlet interface (where this concept is extended as disclosed herein to apply to programmatic portlets), to enable access to software resources. Portlets functioning according to the present invention are also referred to herein as "web service intermediaries" or "web service proxies", or simply as "intermediaries" or "proxies". That is, a portlet may now act as an intermediary between an application or software resource requesting a particular service and a software resource providing that service

A block diagram illustrating a portlet structured as a web service proxy is shown in FIG. 3. As shown therein, portlet proxy 340 includes a deployment interface 310, a system interface 320, and a functional interface 330. The portlet proxy communicates with a portal platform 300 using these interfaces, acting as an intermediary between the portal platform and the software resource 350 which carries out the function of interest

. . . .

The system interface is used for run-time management of portlets (that is, of web services represented by portlet proxies) by the portal platform. Use of the

system interface allows the portal platform to perform functions such as logging of events, billing, and other types of administrative operations pertaining to execution of the web service. This requires 2-way communication between the portal platform and the portlet proxy, and uses novel techniques which are disclosed herein.

'939 patent, col. 7, ll. 15-45, col. 8, ll. 31-39 (emphasis added). Fletcher then goes on to describe the system interface:

The WSDL document 450 in FIG. 4B defines the system interface, which in the example is named "System" (see element 460). A complex data type named "Event" is defined (see element 470), comprising 2 string parameters and a date parameter. This data type may be used, for example, when exchanging logging data to be recorded in an auditing log file. A "logEvent" operation is defined (see element 490), and in this example is a 1-way operation invoked using a "logEventReceive" message (see element 480) which has a parameter of type Event. In addition, the example defines a "reportUsage" operation which has 2 messages "reportInput" and "reportOutput".

Id. at col. 8, ll. 62-67, col. 9, ll. 1-6. The example of a system interface in Figure 4B shows that the system interface contemplated by Fletcher is a definition for allowing the portal platform and the portlet proxy to communicate. Because Fletcher teaches that the system interface is a "definition" and not a functional interface, Fletcher does not teach that the portal platform uses web services to perform administrative functions. In other words, nowhere does Fletcher teach that in order to perform the system functions of the portal platform, that the portal platform calls or invokes web services to perform its own system functions.

As such, Applicant respectfully submits that Fletcher does not teach:

Independent Claim 20: at least some of the system functions of the user interface tool and run-time server are themselves implemented using service modules, wherein the core module is configured to implement the at least some system functions by invoking the service modules of the at least some system functions

or

Independent claim 27: using an invoker interface to request one or more service modules for performing a system function to enable operation of the service-oriented development system . . . wherein at least one of the local invoker and remote invoker are used to invoke a service module for performing a system function of the service-oriented development system.

Dependent claims 21-25 and 29-32 depend from independent claims 20 and/or 27 and thus incorporate the limitations thereof. As such, Applicant respectfully submits that claims 21-25 and 29-32 are distinguishable over the prior art for at least the same reasons discussed above with respect to claims 20 and/or 27 and request that the anticipation rejection with respect to these claims be withdrawn.

5. Dependent claims 26, 28 and 33

Claims 26, 28 and 33 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fletcher in view of Lai. Dependent claims 26, 28 and 33 depend from independent claim 20 and/or 27 and thus incorporate the elements thereof. As such, Applicant respectfully submits that claims 26, 28 and 33 are distinguishable over the prior art for at least the same reasons discussed above with respect to claim 20 and/or 27. Further, as discussed above, Lai does not make up for the deficiencies of Fletcher. As such, Applicant respectfully requests that the obviousness rejection with respect to claims 27, 28 and 33 be withdrawn.

C. Conclusion

In view of the foregoing, applicant respectfully requests the Examiner's consideration and allowance of claims 1-16 and 20-33 as presented herein.

Applicant notes that this response does not discuss every reason why the presented claims are distinguished over the cited prior art. Most notably, applicant submits that many if not all of the dependent claims are independently distinguishable over the cited prior art. Applicant has merely submitted those arguments which it considers sufficient to clearly distinguish the claims over the cited prior art.

In the event that the Examiner finds remaining impediment to a prompt allowance of this application that may be clarified through a telephone interview, the Examiner is requested to contact the undersigned attorney.

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Respectfully submitted,

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